

Chico

**Golden  
Empire  
Amateur  
Radio  
Society, Inc.**

www.gearsw6rhc.org

"Dedicated to Public Service"

# THE RADIATOR

W6RHC  
IRLP #8170

P.O. Box 202 Chico, CA 95927

July 2021 Newsletter

GEARS Founded August 13, 1939

Now that most members are vaccinated we can cautiously get back to normal. We had a great meeting with our special guest Ed Fong WB6IQN from Ed's Antennas. He spoke for close to an hour and answered questions. If you missed the meeting, you can watch a recording here: <https://youtu.be/kV7xBNmykoc?t=315>

We will have another breakfast in July. We plan to continue this on the second Saturday of each month at Farmers Skillet in Chico. However they now that ask our that our group is all on one check, so please bring cash.

We had a smaller group for Field Day, however the stout hams that participated did a great job. Special thanks to Kent Hastings WA6ZFY for making the arrangements.

I've posted some old GEARS photos online, including a couple photos from Field Day this year and previous years:

<https://photos.app.goo.gl/bL6ak8oNjZ26hYWt8>

More GEARS photos online, see links at the end of this newsletter.

Happy July Birthday to Don Cooper W6NMW.

Things are looking better now. I hope to see all of you sometime soon.

Take care and stay safe.



'73

Jim Matthews K6EST

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Join GEARS on Facebook

[www.facebook.com](https://www.facebook.com) For timely news and additional information.

## July 2021 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 7pm PARS Net 7:30pm Simplex Net	2	3
4  8pm OARS Net	5 7pm GARS Net 8pm ARES Net 7pm GEARS Board Meeting Zoom	6 7:30pm GEARS Net	7	8 7pm PARS Net 7:30pm Simplex Net	9	10 9am GEARS Breakfast
11 8pm OARS Net	12 7pm GARS Net 8pm ARES Net	13 7:30pm GEARS Net 7pm ARES meeting	14	15 7pm PARS Net 7:30pm Simplex Net	16 7pm GEARS Meeting	17
18 8pm OARS Net	19 7pm GARS Net 8pm ARES Net	20 7:30pm GEARS Net	21	22 7pm PARS Net 7:30pm Simplex Net	23	24 9am OARS Breakfast
25 8pm OARS Net	26 7pm GARS Net 8pm ARES Net	27 7:30pm GEARS Net	28	29 7pm PARS Net 7:30pm Simplex Net	30	31

**VEC Testing**, FCC License Exam available by appointment. For information or registration call Tom Rider, W6JS 530-514-9211

**Chico Breakfast** 2<sup>nd</sup> Saturday 9am Farmers Skillet Cohasset Rd, Chico

**GEARS Board Meeting** 1<sup>st</sup> Monday 7pm by zoom.

**OARS Meeting** Second Friday of the month

**GARS Meeting** Second Friday of the month

**Butte ARES Meeting** 3rd Tuesday, TBD Contact Dale Anderson, KK6EVX 826-3461 for more information.

**GEARS Meeting**, 3rd Friday of the month, Eyeball QSO 6pm, meeting at 7:00 pm. Search & Rescue Building

**OARS Breakfast** 4th Saturday of the month

### NETS:

OARS Club Net Sunday 8pm 146.655 Mhz - PL 136.5

GARS Club Net: Monday, 7:00 pm 147.105 MHz + PL 110.09

Butte ARES Net Mondays 8pm 145.290 MHz - PL 110.9

Yuba Sutter Club Net Monday 7pm 146.085 MHz + PL 127.3

GEARS Club Net Tuesdays 7:30 PM 146.850 MHz - PL 110.9

PARS Club Net Thursday 7pm 145.290 - PL 110.9

Simplex Net Thursday 7:30 p.m. 146.52 no tone

Yuba Sutter ARES Net Thursdays 7pm 146.085 MHz + PL 127.3

Sacramento Valley Traffic Net Nightly 9:00 PM 146.850 MHz - PL 110.9

### GEARS Century Members

Dale Anderson Kent Hastings

Bennett Laskey Tony Nasr

Scott Roberts

*We thank these members for their extra support.*

### GEARS Repeaters

GEARS West on St. John

145.410 MHz PL is 123.0 Negative offset.

PL both input and output (CTSS)

GEARS East in Forrest Ranch

146.850 MHz Negative offset. PL 110.9 CTSS

440.650 MHz Plus offset, PL 110.9 Hz

## Does Ham Radio Still Have a Role in Emergency Communications?

by K0LWC

Ham radio has been around a long time and a lot has changed since the early days. Better technology and robust backup communication systems have become the norm. Add in new satellite technology from companies like Starlink and we have to ask ourselves: Is ham radio still relevant for emergency communications — or is it now purely a hobby?

People living in hurricane prone area have benefited from ham radio. Hurricanes are unique because they take out critical infrastructure across a large area, often overwhelming the response teams involved. That's where ham radio comes in.

In 2018, Hurricane Michael struck the Florida panhandle with Category 5 winds of 160 mph. That's more than powerful enough to create catastrophic damage to even sturdy, well-built structures. Those catastrophic winds spread across much of the Florida panhandle knocking out communications for days.

The North Florida ARRL put the call out for ham radio operators to help with communications. They needed communication between local shelters and the Florida Emergency Operations Center, and ham radio was the only way to get it done. Traffic was passed using NVIS antennas on HF as local VHF/UHF repeaters sustained significant damage. Ham radio operators we're working around the clock for two weeks before normal communications were restored.

### Ham radio brings medical facilities together

Another common area where you find ham radio is in hospitals. Many facilities have ham radio gear stowed away and an antenna on the roof if the worst case scenario happens. It allows hospitals to communicate with each other and local authorities in a major disaster. The American Hospital Association petitioned the Federal Communications Commission (FCC) to allow amateur radio operators to participate in preparedness drills, which was granted by the FCC. After all, making sure hospitals have the resources they need in a disaster is critical for community safety.

If you're unsure if your local hospitals have amateur radio capability, it might be worth tracking down the emergency coordinator for the hospital and asking.

### Ham radio helps during wildfires in California

Ham radio operators are regularly activated in California to assist with sharing information between Emergency Operations Centers (EOCs) and other agencies involved in the firefighting. They built a system known as AREDN (Amateur Radio Emergency Data Network) that is increasingly becoming popular in major metropolitan areas.

**Yes, ham radio is still a thing in California, no matter what garbage clickbait video you may have seen floating around the Internet.**

In a FEMA published study, Colorado fire agency leaders found numerous benefits of amateur radio to local fire departments. The key was educating both Amateur Radio Emergency Services (ARES) and local fire districts to bring them together.

"As fire agency command staff become exposed to the capabilities of ARES, combined with the low out-of-pocket cost of such a partnership, there is an increased opportunity for such fire agencies to expand their use of ham radio." (Lugenbill, FEMA 2019)

### It's not all emergency communications

Ham radio is still a valuable service in the worst disasters. These situations are becoming less common thanks to technology advances, but still relevant. However, it's not just about emergency communications. If we only focus on the service aspect of amateur radio we will it die a slow and painful death.



"The worst thing we can do is encourage someone to get their license, buy a radio, and throw it in a bag waiting for civilization to collapse."

## Bringing young people into Amateur Radio

Amateur radio is a vast hobby with a wide range of skillsets among members. We need to be recruiting and encouraging new ham radio operators on multiple fronts. Personally, I've been dismayed to see so many in our hobby use their online influence to focus on "preppers" as ham radio's saving grace.

One area of potential growth for younger operators is the "makers." You're probably wondering what that means. Makers are those kids who love to build things, perhaps our future engineers. Ham radio offers so many opportunities to build radio components it's a great hobby for that kid looking for life after the Erector set.

Another area is young adults interested in astronomy and space. Companies like SpaceX and Blue Origin are bringing in the new era of human space flight. Many young people today are intrigued with SpaceX and their quest to go to Mars. Tell that child they can bounce their signal off the moon, or communicate with people across the country using meteor showers and they'll be asking, "How soon can I get my license?"

Ham radio is still important for emergency communications, but our hobby is much broader than that. Let's start communicating that to the next generation of ham radio operators.

## Intrepid-DX Group Prepares for Trip to "Cold and Inhospitable" Bouvet Island

"Bouvet is like the Mount Everest of DXCC entities," 3Y0J DXpedition co-leader Paul Ewing, N6PSE, said. "It is among the most challenging entities to activate due to significant transportation costs and personal sacrifices required by the team to make the 42-day round trip. Fortunately, Bouvet is not our first mountain." The DXpedition's website describes Bouvet as, "a cold and inhospitable place." At 54° S, Bouvet Island, a sub-Antarctic island in the South Atlantic and a dependency of Norway, is the most remote place on Earth.

Ewing announced recently that Mike Crownover, AB5EB, a veteran emergency room physician, has joined the 3Y0J DXpedition team to pair with ER doctor Bill Straw, KO7SS. The DXpedition is set for January - February 2023, but the planning stage to activate the second-most-wanted DXCC entity is well under way, with the team researching polar-quality tents and equipment and discussing antenna specifications with various manufacturers.

"We will make careful choices to help us meet the demand for Bouvet contacts," Ewing said. The 3Y0J team has set a goal of making at least 100,000 contacts from Bouvet. "3Y0J will be a DXpedition with a focus on good, fast, and accurate operating. QSO rates will be very high," Ewing said. "We have assembled a team of strong operators who will strive to work everyone. We will focus on CW/SSB/digital for the 10 - 160 meter bands. Our goal is to match our VP8STI/VP8SGI achievement with 135,000 contacts made."

Ewing said that in the later stages of the DXpedition, operators will use "proven techniques" to work the weakest of callers. "We will also use techniques to work the youth in our audience," he added. No real-time log search will be available, but 3Y0J will upload to Club Log and to M0OXO Log Search each day, Ewing said.

The DXpedition has an estimated budget of \$764,000, with each team member contributing a minimum of \$20,000 each. In April, ARRL awarded a Colvin Grant of \$5,000 to the Intrepid-DX Group to help in funding the 3Y0J DXpedition. Ewing and ARRL member Ken Opskar, LA7GIA, will share DXpedition leadership duties.





## The Best Coax to Use

By Steve VanSickle, WB2HPR

The other day, a fellow ham asked for my recommendation as to which type of coaxial cable was the best to use. I told him – most any coax is suitable – as long as you know the characteristics of the cable and the application requirements. Turns out, he was interested in connecting his new dual-band vertical at his home station. He anticipated mounting the antenna on a modest mast, up about 15 feet above the house gable, with the route of the coax to his home station to be approximately 45 feet.

He asked if his old scanner antenna coax would be suitable (a reclaimed length of RG-58/u) – and I told him “no” – this smaller diameter would gobble up too much of his transmitter signal on its way to the sky. New RG-58/u has a specified loss of around 3.8 dB per 100 feet, and given the condition and age of the old scanner coax, would likely result in a loss of around 50 % of his transmit signal, factoring in the connector losses. Also, that old coax was likely contaminated, since it began life as a bargain basement no-name variety and had been subjected to many years of outdoor exposure. It may well have poor shielding as well, resulting in extra noise on his receive signal. Not a good choice for this application.

In the end, this ham opted to wisely spend a few extra dollars to get the best cable for his application – choosing to go with a 50 foot roll of RG-214, resulting in better shielding, as well as half the loss (1.9 dB/100 ft.). Being new, and a reputable brand, this coax is destined to last for a very long time and give many years of trouble-free service.

He could have opted for larger, more expensive “hard line” – that is coaxial cable with even less loss (.8 dB/100 ft.) - but at a cost that would be hard to justify in this installation. You have to make a cost/benefit analysis (and check your project budget) to determine which coax choice is correct for each application. In other words, what’s the best bang for the buck.

This example illustrates why you have to look at the big picture when you choose which coax to use with your antenna. You must consider the overall length, the frequency, the power handling requirements, installation requirements, and exposure to the elements. In addition, factor in your tolerance to power loss and receive signal degradation. Specifications for most types of coaxial cable are readily available – either through Internet resources or in many written publications – such as the ARRL Antenna Handbook. Also, you can seek the opinion of your Elmer or fellow ham (mentor) to get their advice.

Take the time to factor in all of these variables when planning an antenna installation and you’ll be glad that you “thought it through” before you get out that soldering iron and step ladder! This way you will end up with the best coax to use and the performance you expect from your gear. See the chart below for a comparison of coax loss.

**Coax Loss Chart dB per 100 Feet**

	<b>RG-316</b>	<b>RG-58</b>	<b>RG-8X</b>	<b>LMR-240</b>	<b>RG-213</b>	<b>9913</b>	<b>LMR-400</b>	<b>Bury-Flex</b>
<b>3.5 MHz</b>	1.5	.8	.65	.45	.3	.23	.2	.26
<b>7 MHz</b>	2.1	1.2	.85	.64	.5	.32	.3	.37
<b>14 MHz</b>	3.0	1.7	1.21	.91	.7	.46	.5	.53
<b>28 MHz</b>	4.2	2.4	1.74	1.29	1.00	.65	.7	.75
<b>50 MHz</b>	5.6	3.2	2.36	1.73	1.40	.88	.9	1.00
<b>144 MHz</b>	9.6	5.5	4.20	2.95	2.40	1.54	1.44	1.73
<b>440 MHz</b>	17	9.9	7.92	5.23	4.40	2.818	2.7	3.08
<b>2400</b>	41.4	24.8	22.80	12.65	12	7.48	6.6	7.63

## GEARS Club Officers:

President.....Jim Matthews, K6EST  
Vice-President.....Paul Stewart, N6PAS  
Secretary.....Open  
Treasurer.....Kathy Favor, K6FAV  
ARES.....Dale Anderson, KK6EVX  
Director.....Bennett Laskey, K6CEL  
Director.....Kent Hastings, WA6ZFY  
Director.....Rich Astley, N3UOR  
Past President.....Tom Rider, W6JS  
VEC.....Tom Rider, W6JS

GEARS Radiator past issues are available at:

<https://drive.google.com/drive/folders/0B-jPu0P0RkymZ2Q1WDR6THZLNmM?usp=sharing>

Photos from GEARS Steak 1969

<https://photos.app.goo.gl/euv1NPHCjtwAcwT69>

Photos from GEARS Steak 1989

<https://photos.app.goo.gl/n66qqKsNLdwTgJBc6>

Photos from GEARS Ham Fest 1989

<https://photos.app.goo.gl/kq29mD5io6wXd9fk6>

Photos from GEARS recent GEARS meetings

<https://photos.app.goo.gl/kq29mD5io6wXd9fk6>



"What else did you fix today?"

